147 Big Blue Blvd.
Whitesburg, KY 41858
(606) 633-0175
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Sapphire Coal Company

October 16, 2008

KPDES Branch
Division of Water
Frankfort Office Park
14 Reilly Road
Frankfort, Kentucky 41601

RE: Sapphire Coal Company
Application No. 867-5296
KPDES Coverage Application
HQAA and NOI-CM

Dear Sir or Madam:

Please find enclosed the above referenced forms. Please note that while this is an application for coverage of a new mining operation, these areas are currently constructed covered under Cook and Sons Mining, Inc. permit number KYG045234. The dugout structure DO-1 under this proposed application is the same as DO-16 of the Cook and Sons permit.

Should you have any questions concerning this matter, please contact our office at your convenience.

Sincerely,

Paul Price

Paul Price
Permit Technician
Sapphire Coal Company

KPDES FORM HQAA

Kentucky Pollutant Discharge Elimination System (KPDES)

High Quality Water Alternative Analysis

The Antidegradation Implementation Procedures outlined in 401 KAR 5:030, Section 1(3)(b)5 allows an applicant who does not accept the effluent limitations required by subparagraphs 2 and 3 of 5:030, Section 1(2)(b) to demonstrate to the satisfaction of the Environmental and Public Protection Cabinet that no technologically or economically feasible alternatives exist and that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the water is located. The approval of a POTW's regional facility plan pursuant to 401 KAR 5:006 shall demonstrate compliance with the alternatives analysis and socioeconomic demonstration for a regional facility. This demonstration shall also include this completed form and copies of any engineering reports, economic feasibility studies, or other supporting documentation

I. Permit Information

Facility Name:	Buck Creek Deep Mine	**KPDES NO.:**	Pending
Address:	147 Big Blue Boulevard	**County:**	Letcher
City, State, Zip Code:	Whitesburg, KY 41858	**Receiving Water Name:**	Rockhouse Creek

II. Alternatives Analysis

	Yes	No
1. Has discharge to other treatment works been investigated? (If yes, then indicate which treatment works were considered and the reasons why that discharge to these works is not feasible.)	☒	☐

The Whitesburg Municipal Wastewater Treatment Facility is the closes facility to the operation and is located a little over 12.7 miles away. To pump the discharge to the facilities an impoundment structure would have to be built on-site to hold the run-off until it was pumped away. The run-off during a 25 year 24 hour storm even would generate 14,955,106 gallons. to the cost to construct a system to transport the water from the mine site to the treatment facility would cost $16.00 per foot to lay 67,000 feet of 12" waterline ($1,072,896) , $200,000 for 6 pump stations ($1,200,000), approximately 60 gate valves at $800 each would be needed ($48,000) The design , inspection, permitting, legal, and to purchase right-of-way would cost would cost an estimated additional $500,000, to get the water to the treatment facility. Once the discharge reaches the treatment facility, once there treatment will cost $3.15 per thousand gallons to treat it ($50,800). The total cost for pumping and treatment of one (1) 25 year 24 hour event would cost $2,870,896, and this does not include the operation, maintenance and electricity cost which could add another $250,000 per year.

(continued)

	Yes	No
2. Have other discharge locations been evaluated? (If yes, then indicate what other discharge locations have been evaluated and the reasons why these locations are not feasible.)	☒	☐

Other locations were looked at for the proposed face-up area. Several circumstances led to the proposed site being chosen. First, the proposed underground area surrounds a previously mined area which initially greatly limits the entry points. Secondly, due to the low elevation and dip of the coal seam , the proposed site was the only one with enough room for a box cut to reach the coal bed.

One benefit of the chosen location is the watershed has already been extensively mined and has existing previous disturbance therefore the additional impact will be very minimal. The branch that the pond will be discharging into already has existing discharge points from other ponds into it. (continued)

Section II – Alternatives Analysis

(1) continued

Option 1: Once the discharge reaches the treatment facility, the problems becomes municipal facilities are not designed to remove settleable solids from water; this means a settlement pond would have to be constructed at the wastewater treatment facility that would essentially be the same as having the discharge at the mine site.

Option 2: The water could be trucked to the treatment plant however a retention pond large enough to contain the water from a 25 year 24 hour storm event would have to be constructed on site, and another at the treatment facility at a cost of approximately $60,000. Fifty (50) tanker trucks with a capacity of 10,000 gallon each and working three (3) 8 hour shifts could transport the water to the treatment facility in 2 days, by each truck getting 5.33 loads in an 8 hour shift for a total of 16 loads for each truck in a 24 hour day. The time frames listed are considering no additional rainfall occurs during these times. The trucks could be purchased at an initial cost of $200,000 per truck ($10,000,000). Hauling 24 hours a day the trucks would need 150 drivers at $22.00 hour ($3,300/day). Fuel cost per day for the trucks would be $7,520, this isn't counting the parts and repairs to keep the trucks maintained. And this will be for one (1) storm event. Hauling water would inevitably result in the constant tracking of mud onto the highway which would require a cleaner truck to be in operation for as long as the haulage lasts. The sweeper would need to be present for at least 2 days for the each storm event. At a rate of $50 per hour the cost would be $1,200 per event.

(2) continued

Other streams around the area were looked at as possible discharge sites, The other streams around the area are also of high water quality also and not listed on the list for outstanding waters. Since pond A would be better suited at its proposed location since it is controlling the runoff from a face-up area for an underground mine and is located on the bench and can control the runoff and catch all sediment before it leaves the site. Other branches located to the Northwest were evaluated for possible discharge points for the pond, Perkins branch and Mill branch were evaluated but not chosen as options because drainage could not be established to these watersheds because of the steep terrain and elevation difference to each. Water would have to be pumped 1000' feet in elevation and would require 5,575' of pipeline to get to Perkins Branch and 5,680' to get to get to Mill Branch. The cost to install pipeline, pumps and lift stations and power lines to these would be in excess of $400,000. The Power bill to pumps and lift stations will add additional cost of approximately $300 per month

II. Alternatives Analysis - continued

	Yes	No
3. Has water reuse or recycle been investigated as an alterative to discharge? (If yes, then provide the reasons why it is not a feasible alternative	☒	☐

Water recycling will be used as much as possible one way water will be reused will be for dust control on the roads an face-up area however this will be minimal (3%) compared to the total that will be controlled by the pond. Another method of reuse would be for the residents to use for watering their livestock and irrigation for crops. However there is little live stock in the area and the irrigation would only be seasonal having a minimal effect. During a 25 year 24 hour storm event 14,955,106 gallon of water would be treated by the pond.

	Yes	No
4. Have alternative process or treatment options been evaluated? (If yes, then indicate what process or treatment options have been evaluated and provide the reasons they were not feasible.)	☒	☐

All mining sites are required to have sediment ponds to control runoff from the areas. Therefore, we are limited to choosing the site with the least impact. Other methods of mining were considered however the coal seam lies at a very low elevation very near the stream level. Therefore there is no room to construct support structures such as ponds and fills needed for contour mining and this method would cause more disturbance and have more runoff to control. The underground method being proposed will create less disturbance and cause less runoff and pollution than any other method of mining and will recover 80% of the coal seam eliminating the possibility of remining the area. The cost of mining by this method compared to contour mining could result in the difference of cost of approximately $5,000,000 to $10,000,000 or more due to the cost of fuel , blasting, material handling and reclamation.
Constructing a sand filter on site was looked but limited room was a large factor and they are not very effective in removing the types of sediment from a mining operation and would have to back flushed continually costing additional money. They are not very effective at handling large volumes of water during a heavy storm event. The capital cost of an on-site treatment plant like one used for treatment of domestic sewage is $300,000. Also after the operation is complete removal disposal an reclamation of the unit would cost an additional $150,000 or more.

II. Alternatives Analysis - continued

	Yes	No
5. Have on-site or subsurface disposal options been evaluated? (If yes, then indicate the reasons they were not feasible.)	☒	☐

Discharge into the old underground mines in the area would be possible however the extents and condition of the mines are not known and could possibly be disastrous even deadly to the miners working in this underground operation. It would also result in the water not being treated as efficiently. Therefore the water or streams could receive more pollutants because of blowouts or unknown seeps, which would not be treatable. A treatment facility such as an underground septic system was given some consideration. However an area large enough to construct on large enough to handle all the runoff from the operation is not available. If an area was available then the disturbance to construct the facility would create more disturbance than the mine site. It would have to be constructed large enough to handle all the runoff 14,955,106 gallons. By using 10,000 gallon tanks in construction of these systems 1,496 of these would be needed. The cost of these systems would be $1,025,000. Since these are designed for biological waste water treatment and not sediment they would have to be cleaned an maintained frequently. Cleaning of these systems would cost at least $200,000 per year.

	Yes	No
Have any other alternatives to lowering water quality been evaluated? (If yes, then describe those alternatives evaluated and provide the reasons why these alternatives were not feasible.)	☒	☐

The only options to lowering water quality are to not mine the area. This was dismissed as the jobs of the workers are depending on having this area to mine to secure their jobs for the next five to six years. The addition of from 20 to 30 New jobs and the continuation of 100 to 110 existing jobs by this employer and further economic development in this chronically depressed region of the state (Letcher County). This would result in the loss of jobs and income for the entire community, The loss of this job alone would result in the loss of $7,507,500 per year in lost wages and approximately $500,000 a year in coal severance taxes being returned to the county. The only option that we have is to choose the area that will allow the coal to be mined with the least environmental impact or except the more stringent effluent limits which result in an added cost of approximately $2,500,000 in larger permit fees and chemical treatment.

III. Socioeconomic Demonstration

1. State the positive and beneficial effects of this facility on the existing environment or a public health problem.

Currently a large portion of the proposed face-up area has been disturbed and the area is bare and an approximately 200-300' stretch of stream has been negatively affected. Upon completion of mining these areas will be seeded and the stream section will be restored which will greatly improve the quality of the water and reduce sedimentation in the area caused by these previous disturbances.

2. Describe this facility's effect on the employment of the area

Mining in some way drives the vast majority of the employment and revenue in the area. Lost jobs in the mining industry relate directly to lost revenue by local markets and businesses. Sapphire Coal Company provides 400 jobs in Letcher County at present and has for several years. This proposed silt structure will control sediment for a face-up area for a new underground mining operation that will replace a working out operation. Without this new underground operation it would effect all the employees either by layoffs or job loss entirely. (continued)

3. Describe how this facility will increase or avoid the decrease of area employment.

This facility if allowed to open will provide employment to present and future employees for years and also for employees of other businesses in the area. Not having the proposed mine allowed to operate and expand and not being able to obtain necessary permits to operate, the employment in the area will be greatly reduced also the tax monies generated by and because of the operation. (continued)

4. Describe the industrial or commercial benefits to the community, including the creation of jobs, the raising of additional revenues, the creation of new or additional tax bases.

While keeping the miners employed, the facility will allow the miners to continue to contribute to local groceries and gas stations and other small commercial businesses. Eastern Kentucky has a delicate balance of workers and people offering goods and services, any large loss of jobs could easily throw this balance off and adversely affect the livelihoods of those in other industries in the area. (continued)

5. Describe any other economic or social benefits to the community.

Simply maintaining existing jobs is very important to a struggling economy in the area. Sapphire Coal Company currently employees approximately 400 people with jobs averaging between $55,000 to $65,000 per year. An additional $15-$20 million dollars will be spent with companies and vendors in the area by Sapphire Coal. (continued)

III. Socioeconomic Demonstration

2. (continued) and create approximately 20 to 30 new jobs. This will directly affect the employment of these present 400 employees and the possible new employees, and indirectly approximately 800-1000 employees of other businesses and vendors in the counties where they do business. By having this operation insures these jobs continue and prevent unemployment.

3. (continued) This would negatively affect the present and future employment in the county for all employees of Sapphire Coal Company and several hundred employees of other businesses in the area where they spend their wages. Without these jobs which are high paying jobs in Letcher County, the employees would be forced to leave the area in search of other jobs, accept lower paying jobs, or receive unemployment benefits along with federal and state aid. Opening of this facility will insure continued employment for current employees and will provide employment for an additional 20-30 new employees for years to come. The unemployment rate for Letcher County is 7.9%, by loosing any mining jobs would only increase this percentage in an area where 27.1% of the residents income is below poverty level with an average household income of $23,428 a year. Of the jobs in the area 17.4 % are mining jobs. These jobs pay $55,000 to $65,000 per year. By adding 20-30 new jobs will add an additional $1,200,000 to $ 1,800,000 in wages to be spent in the community.

4. (continued) The mining industry provides a large amount of jobs in this region that depends largely on it for employment. The high paying coal related jobs in the area increases taxes for local, state and federal governments because of the higher taxes paid due to the increased wages. These jobs being in the region is providing people with work earning better wages and not leaving the area therefore keeping the money and taxes in the region. Approximately $500,000 per year of coal severance tax will be generated by this operation. Approximately $90,000 a year will be paid in sales taxes by the employees spending their wages in the area. Additional revenue is available for road improvement, sewer projects and new water line construction, new schools all of which helps to bring other businesses and industry to the area it Letcher county, which in return brings additional tax revenue and jobs.

5. (continued) by having this operation will insure that existing employees wages ($24,000,000) is kept in the area and by adding an additional 20-30 new jobs will add an extra $1,500,000 into the local economy of Letcher county and surrounding areas.

11. (continued) An additional 800-1000 households with an average earning $23,428 per household would be indirectly impacted for a total of between 1200 and 1400 households. The operation will have an extended impact on the households by the extended employment of the workers. Sapphire Coal Company provides a source of income for the households of Letcher county in Eastern Kentucky by employing residents of the area. If the loss of this operation were to occur these households would be without income or a drastic loss of income which would affect lifestyle and fewer if any resources to provide for their families . This could result in the families having to relocate to other areas to find new jobs, disrupting the family and children's life. If other lower paying jobs were taken in the area would mean a difference in $500 to $700 a week. This operation helps continue existing jobs throughout the county not only just for their employees but employees of other establishments as well.

III. Socioeconomic Demonstration - continued

	Yes	No
6. Will this project be likely to change median household income in the county?	☒	☐
7. Will this project likely change the market value of taxable property in the county?	☒	☐
8. Will this project increase or decrease revenues in the county?	☒	☐
9. Will any public buildings be affected by this system?	☐	☒

10. How many households will be impacted by this project? **400 plus 800-1000 for 1200**

11. How will those households be impacted?

400 plus households will be directly impacted because Sapphire Coal employees 400 people at this time that ears a total of $24,000,000 a year. (continued)

	Yes	No
12. Does this project replace any other methods of sewage treatment to existing facilities?	☐	☒

(if so describe how) **This facility is not a sewage treatment facility but is a sediment control structure and would not replace or affect any other sewage treatment facility. The primary sewage treatment in this area is individual septic systems.**

	Yes	No
13. Does this project treat any existing sources of pollution more effectively?	☒	☐

(If so describe how.) **The sediment control structure proposed for this facility will reduce the amount of pollution discharged into the water and retain the sediment from the job site due to existing disturbances in the area. Most of the area proposed for the face-up area is previously disturbed with no silt control measures. Construction of the site will control this sediment and runoff from the area.**

III. Socioeconomic Demonstration - continued

	Yes	No
14. Does this project eliminate any other sources of discharge or pollutants? (If so describe how.)	☒	☐

This project consists of a dug-out on bench sediment structure, ditches and berms when constructed will reduce the amount of pollution discharged into the water as a result of mining activities. Pollution will be decreased from the waterways when this pond is constructed and will aid in the water quality from the previous existing disturbance of the site. Upon completion of the operation the entire area including the areas of previous disturbance will be reclaimed with an excellent vegetative cover. This structure will treat the water before it enters the streams. After reclamation, a section of currently disturbed and un-rehabbed stream will be returned to a productive state and currently bare areas will be reclaimed.

15. How will the increase in production levels positively affect the socioeconomic condition of the area?

An increase of production from mining in this area (Letcher county Kentucky) will provide more jobs in a region that is economically depressed were jobs are desperately needed. This in turn will improve the socioeconomic condition of the area, more jobs can be added and boost the future economy. This facility would add an additional 20-30 employees and jobs that will add an extra $1,200,000 to $1,800,000 into the economy and insure the employment of the existing employees. Also provide a reliable tax revenue for the areas future development and economy of Letcher county.

16. How will the increase in operational efficiency positively affect the socioeconomic condition of the area?

This operation will result in the production will result in more product (5,000,000tons of coal from this one facility)available for sale, which will insure the employment stability in the mining industry. The stability will positively affect the socioeconomic condition of the region . This will increase the tax revenues, improve the school systems for the community, road construction and maintenance and help provide monies for much needed water and sewage projects for the area (15% of all severance money is returned to the county), as well as provide cheaper electricity and other coal products.

IV Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Title:	**Keith Hargrove – General Manager**	**Telephone No.:**	(606)633-0175
Signature:	Keith Hargrove	**Date:**	**10/21/08**